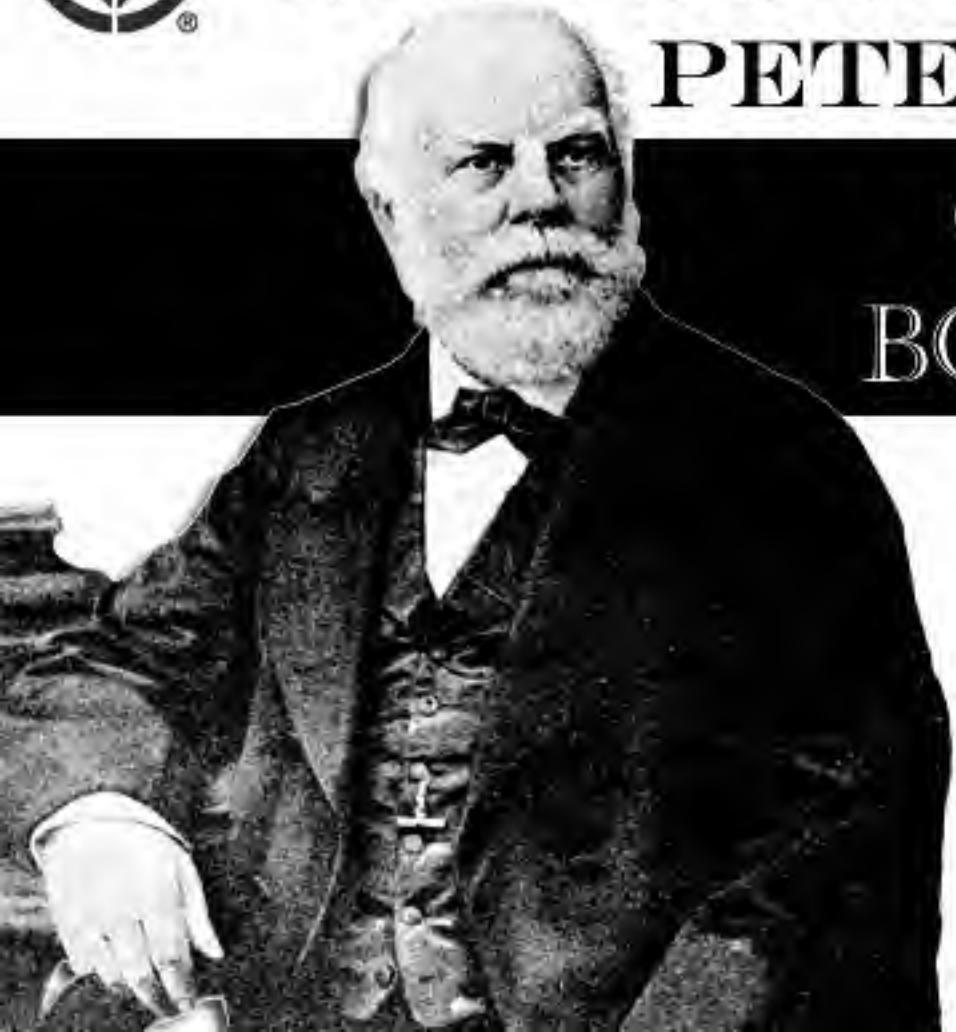




MISSOURI BOTANICAL GARDEN

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GEORGE ENGELMANN BOTANICAL NOTEBOOKS

Pagination Note:
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10. *Opuntia spinifera* HB. Rep. Jan 1st 1809

name apparently correct.

plant bushy, patulous, 2-3 feet high.
joints 7-9 or even 10 inches, long by 5 to 6 wide.
thin, ^{very} slightly tubercled.

areoles $1\frac{1}{4}$ - $1\frac{1}{2}$ inches apart, orbicular
all spine-bearing, strongly bristly, especially
where they are confluent on upper edge, bristles
slender, straight, acicular, terete
bristly and spines longer and more numerous with
age - the latter 3-6-7 in number, at last decaying
while bristles increase in number and areoles in size

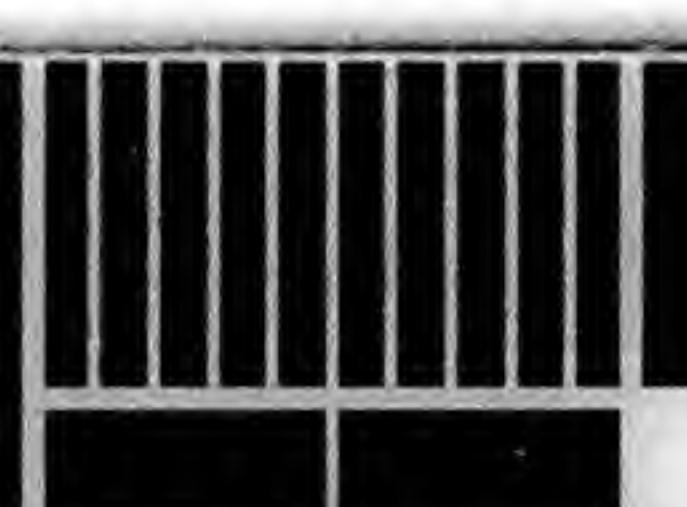
32 is same plant. 3 feet high, bushy; joints
obovate, larger ones 2 inches long by 6 wide.

49 same plant, a good specimen 4 feet high, bushy
joints 6-8 inches long by 5-7 wide, broadly
obovate, not tubercled at all

areoles orbicular, large, very bristly
about $1\frac{1}{4}$ - $1\frac{1}{2}$ inches apart, oldest ones
larger and very bristly, but bearing no
spines.

Spines 1-3 or 4 in number, or none
yellow, flat, acicular $1\frac{1}{2}$ - $1\frac{1}{2}$ inches long

73. same plant, 3 high, wide spreading, 4 feet
old trunk with no spines, but orbicular
areoles of bristles large, bristles long and
stiff. - Joints 6-8" x 5-7", broadly oval
obovate



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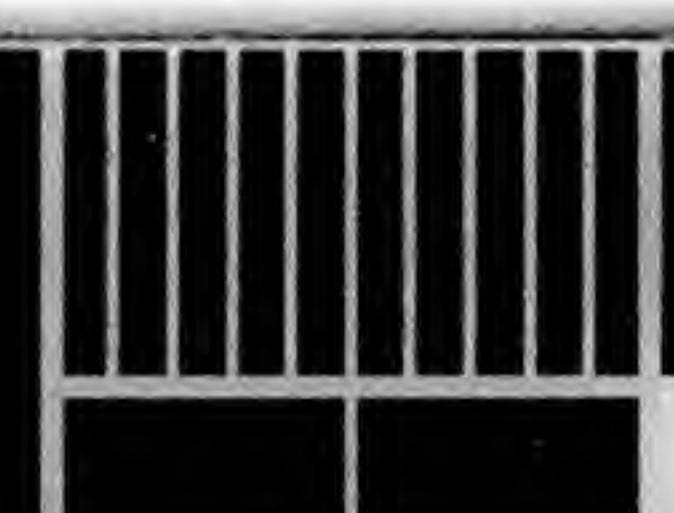
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52-6 Op. "virens?" HDS Reaps. Jan 7th 1869
a bushy plant
with green fruit ^{crisply} unripe, on face of joints
bearing on the areolar a few spinules
Joints 7-9" x 5-6" - dimensions
Areolae $1\frac{1}{4}$ - $1\frac{1}{2}$ inches apart, large
and oval, with stiff yellow bristles
especially on upper edge
Spines on most joints, 3-5 straight
yellow angular, sometimes a little
curved.

526 "virens?" green fruit on face of joints
with few spinules

7-9 x 5-6" -
a $1\frac{1}{4}$ - $1\frac{1}{2}$ - large oval
stiff yellow to pointed - app. edge
spine 3-5 straight yellow, angular
pointing a little inward

4.5 mm. in. 3 months old
Angular trunk almost smooth
3 trunk smooth
1 about dark spot and areoles



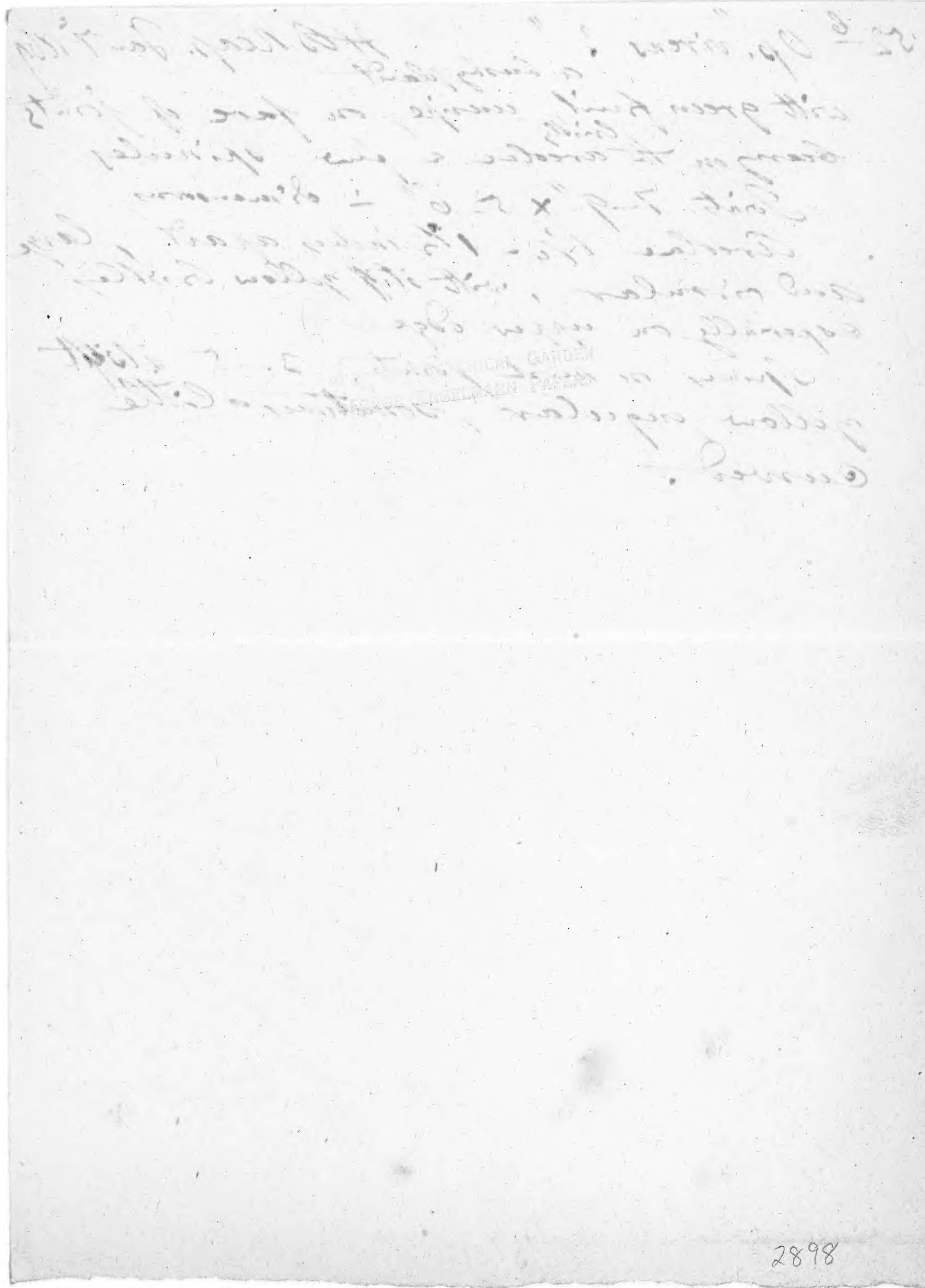
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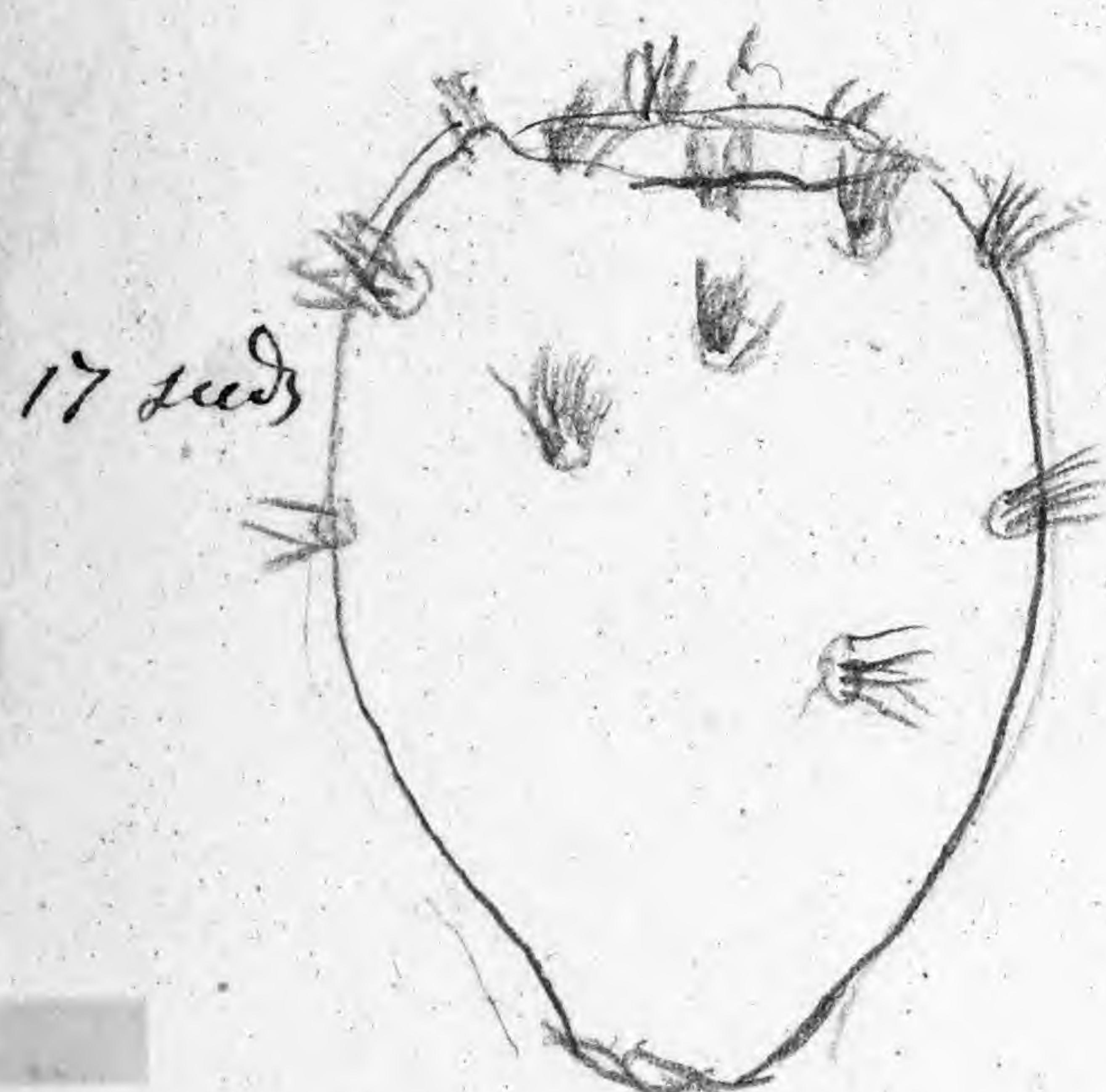
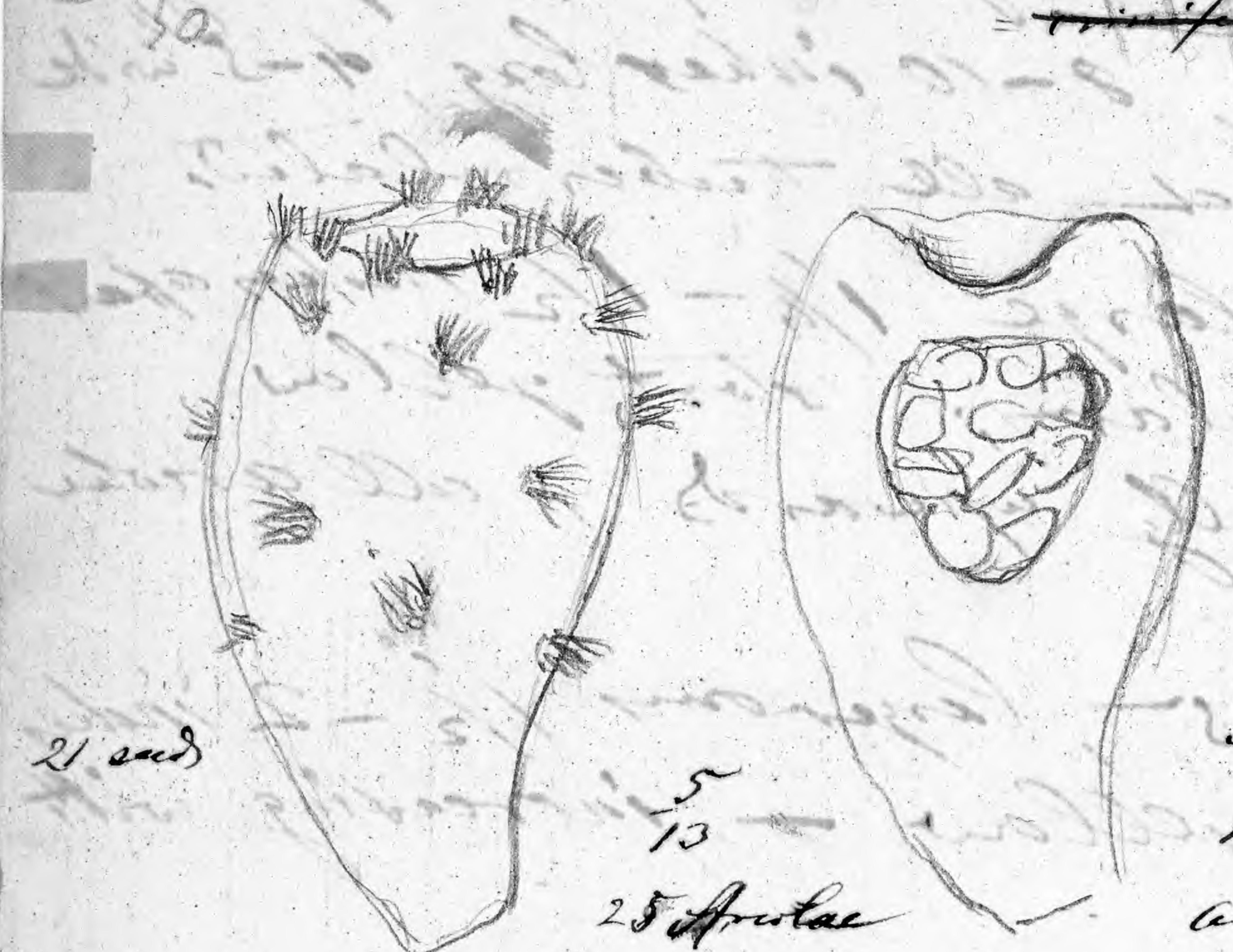
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30

"Opuntia stricta?"

H. E. Böhl Neapol

Dec 16 1868



fruit not yet ripe, quite green, in and outside but pulp around seed very scant, purple

fruit obovate clavate,
with base more or less naked - ~~the upper portion~~
areoles few, about 22-25
in $5/13$ arranged, scarcely
tubercled, but cloth with
strong and numerous long
yellow bristles
cavity inside almost spherical
seeds few - the two sp. examined,
(17-21) umbellous slightly
inflated globose.



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Bushy, 2-3 feet high; plant young.
joints glaucous, 8-10 inches long, 4-5 inches
scarcely, or not at all, tuberilated;
areoles very large, $1\frac{1}{2}$ - $1\frac{1}{2}$ inches apart
almost orbicular; stout yellow
bottles especially upward. all areoles
bearing 10 spines 5 scarcely like
a spiny 3-5. Pappous $1\frac{1}{2}$ - 2 inches
long, stout, yellow, stout, yellow, ^{above} with
angle ^{above} ~~and~~ ^{above}

P 35 larger ones $1\frac{1}{2}$ - 2" yellow
stout, ^{and} more with age.

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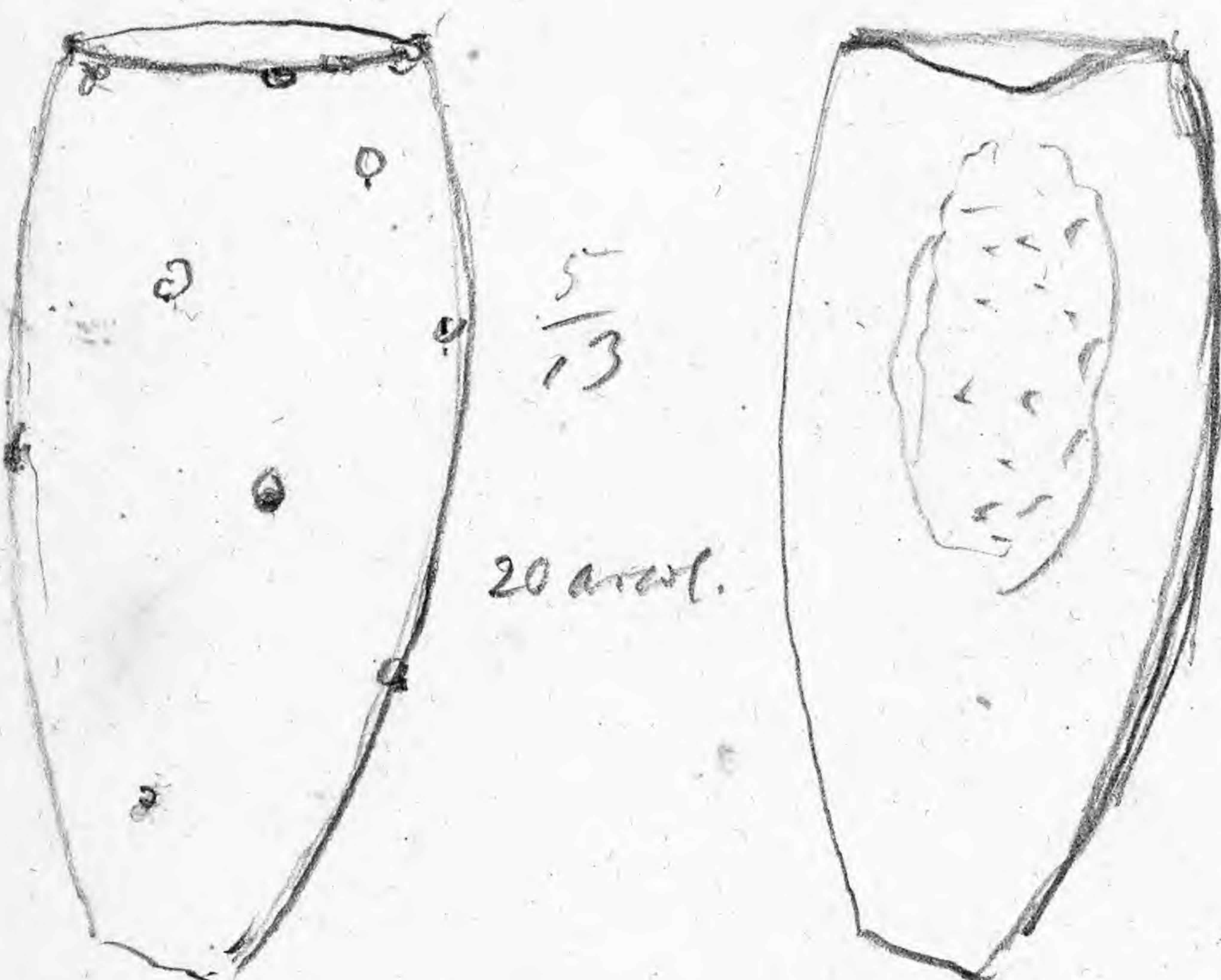
34 Operaria

size now

Operaria?

Herb Pot Neapol

Dec 27 1868



very oblate, truncate
above (or umbilicus slightly
impressed, broad) not
suberolate, with about
20 areoles $\frac{5}{13}$ all
over the part, small with
2 distinct 'ridges'.

cavity oblong.
all seeds in this part absent
but another, decayed part being under
the plant, had good seed, only 8 going
through germination numerous

A small young plant, rather erect, 1 foot
high.

Joints pink green, scarcely suberolate
 $3\frac{1}{2}$ inches long $2\frac{1}{2}$ - 3" wide, broadly
obovate

areoles large, oval, with numerous
brown bristles, only upper ones with
1-2 stout whitish + recto spiny,
brown at base.

areoles and bristles increase with age



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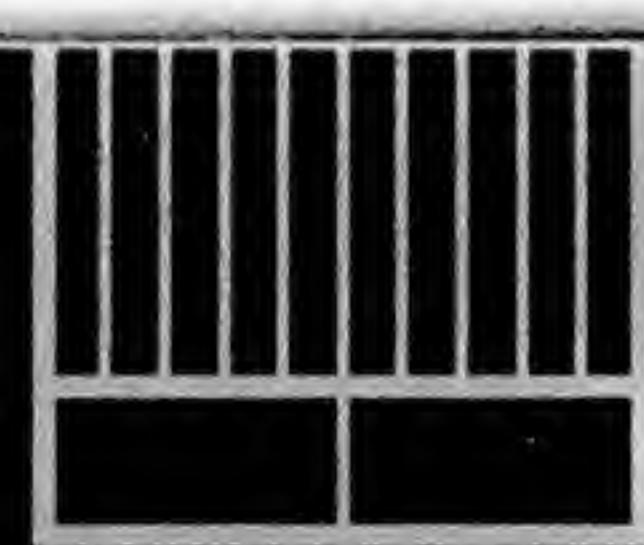
small plat fly, 1¹/₂ in

green, sandy hab. 3 x 4" body
obovate.

a large worker with large numerous
brown br. old ones, very large & bristly
uppers with 1-2 short tent
wh. br. sp. at base

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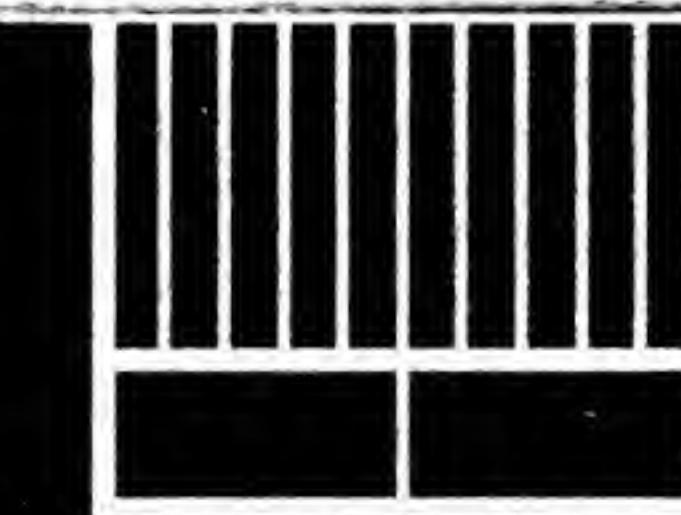
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37. Opuntia orbiculata "H. B. Scapul" Jan 1st 1809
1809
marked

A small plant, only 2 feet high,
larger joints 7 inches long and wide, thin, not tubercled.
areoles $1\frac{1}{2}$ - $1\frac{3}{4}$ inches apart, orbicular,
scarcely any bristles
spines bristly, conical, 2-4 in number
larger ones 1- $1\frac{1}{2}$ inch long, yellowish white
straight, disappearing with age



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45 *Opuntia* "spinalifera"

2 ft. diam.

Hotchkiss Capital.

Jan 5 1869

A young plant, 2½ feet high,
joints nearly orbicular, glaucous, 9-12
inches by by 7-11 ~~wide~~ - this
arcuate close, less than 1 in apart, oval,
bristles very short; all
spines on almost all arcuate, white with
yellow bases, 1-3 - 5; larger ones circular,
flexed, ^{1 in - 1 1/2 in long.} smaller ones often bristle-like
old joints more bristly

Compare No 29



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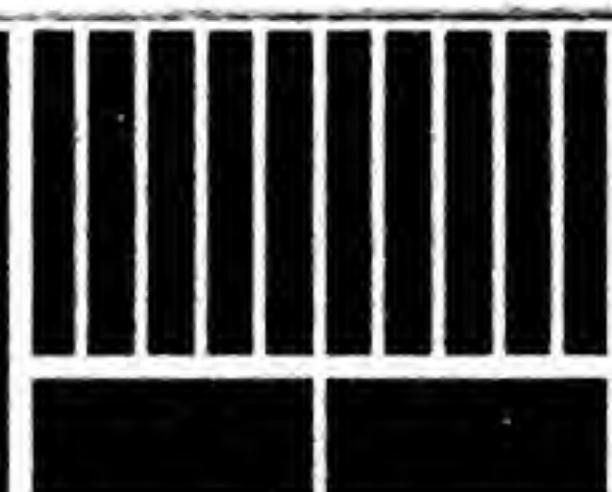
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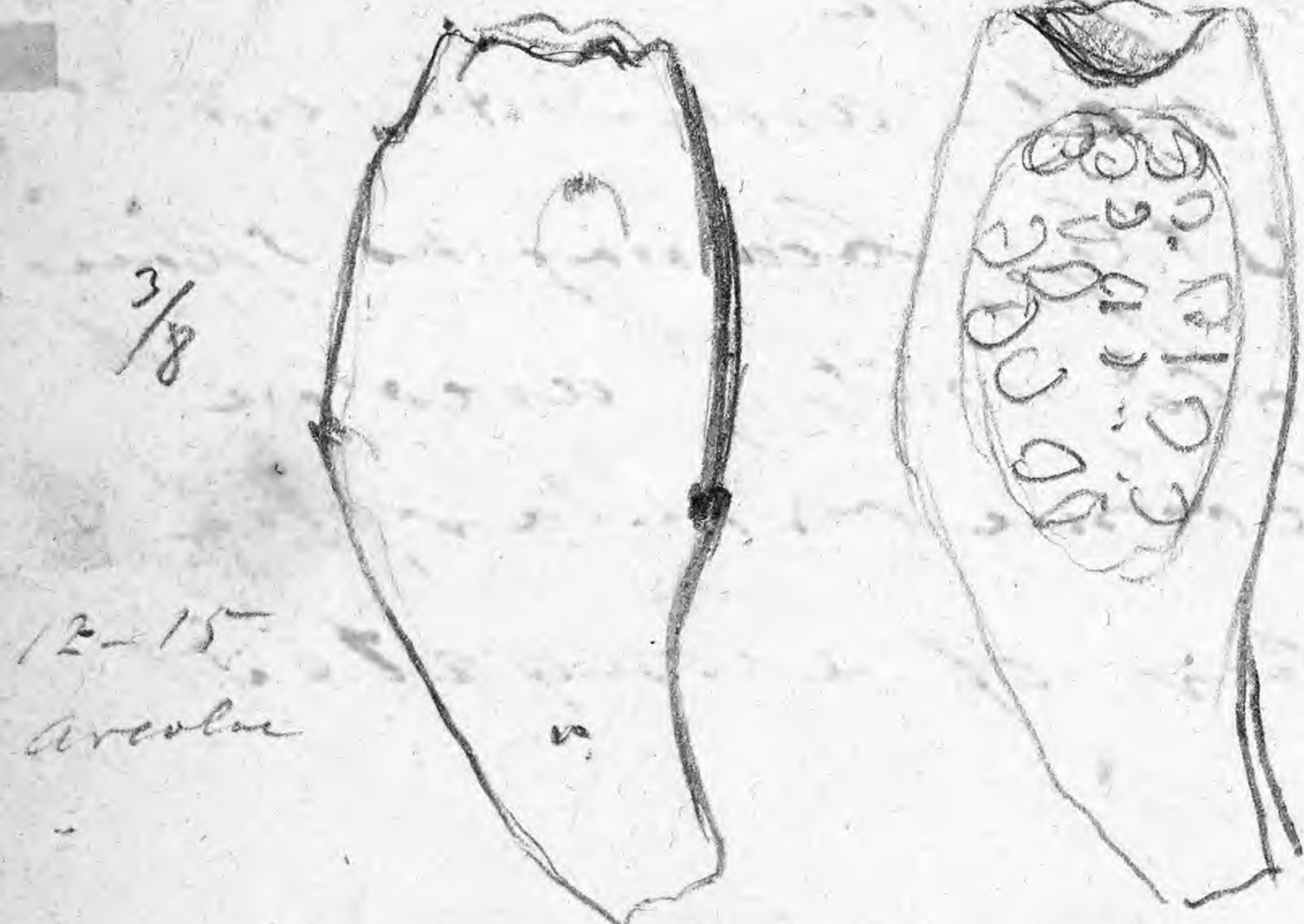
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51 "Opuntia lanceolata" 51

Hort Bot Neapel

Dec 15th 1868

per prostrate, articulis
obtusis lanceolatis
et alginis



caulis obtuso-oblatus,
basi stenli attenuatus
umbilicis; inter carnis
red purpureo-bris
glaucinosa carnosis
nec succosis $\frac{3}{8}$
areolae paucis (12-15)
in superior parte parti
leviter subcundatis, mox
nudatis & umbilicis infund-
buliformi sub hemisphaerio
impresso - caritate parte obtusata
semimarginibus planis (25-40)

ad. O. vulgaris spectat.



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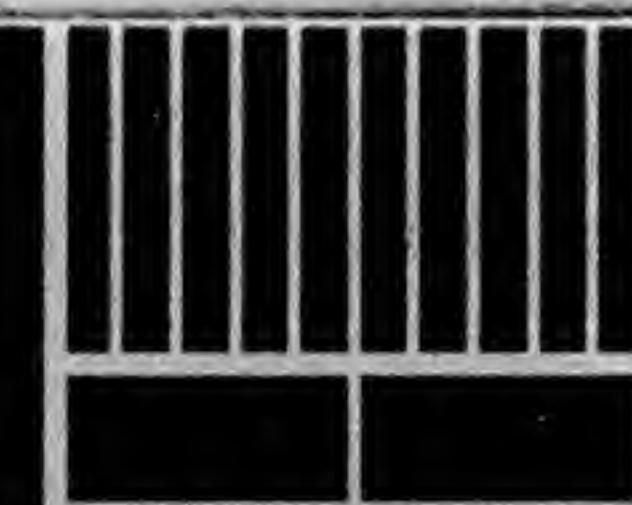
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plant 2 feet high, bushy, spreading
for its 4-5 inches long by $1\frac{1}{2}$ -2 wide, distinctly
tuberous, darker spots around tubercle.

Arcoles oval, bristly, bearing no spines;
1 inch apart; on old joints, areolae
increase in size, become circular, and
bear a large number of elongated
bristles.

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52 Opuntia tuberculata

H.B. Neap. Jan 5
1869

prostrate, now quite red at least on upper surface
parts 4-6" x 2½ - 3", tuberculate, lobes
darker
areoles oval, bristles short 1" apart
old ones larger, very easily
single spines or mostly none
for fruit, turn over

53 Opuntia intermedia

same as last, prostrate, with orbicular
4" x 3", areoles $\frac{3}{4}$ apart, ^{text short} single spines
or mostly none, bristles much elongated
with age — seed under the plant, no fruit
seen.

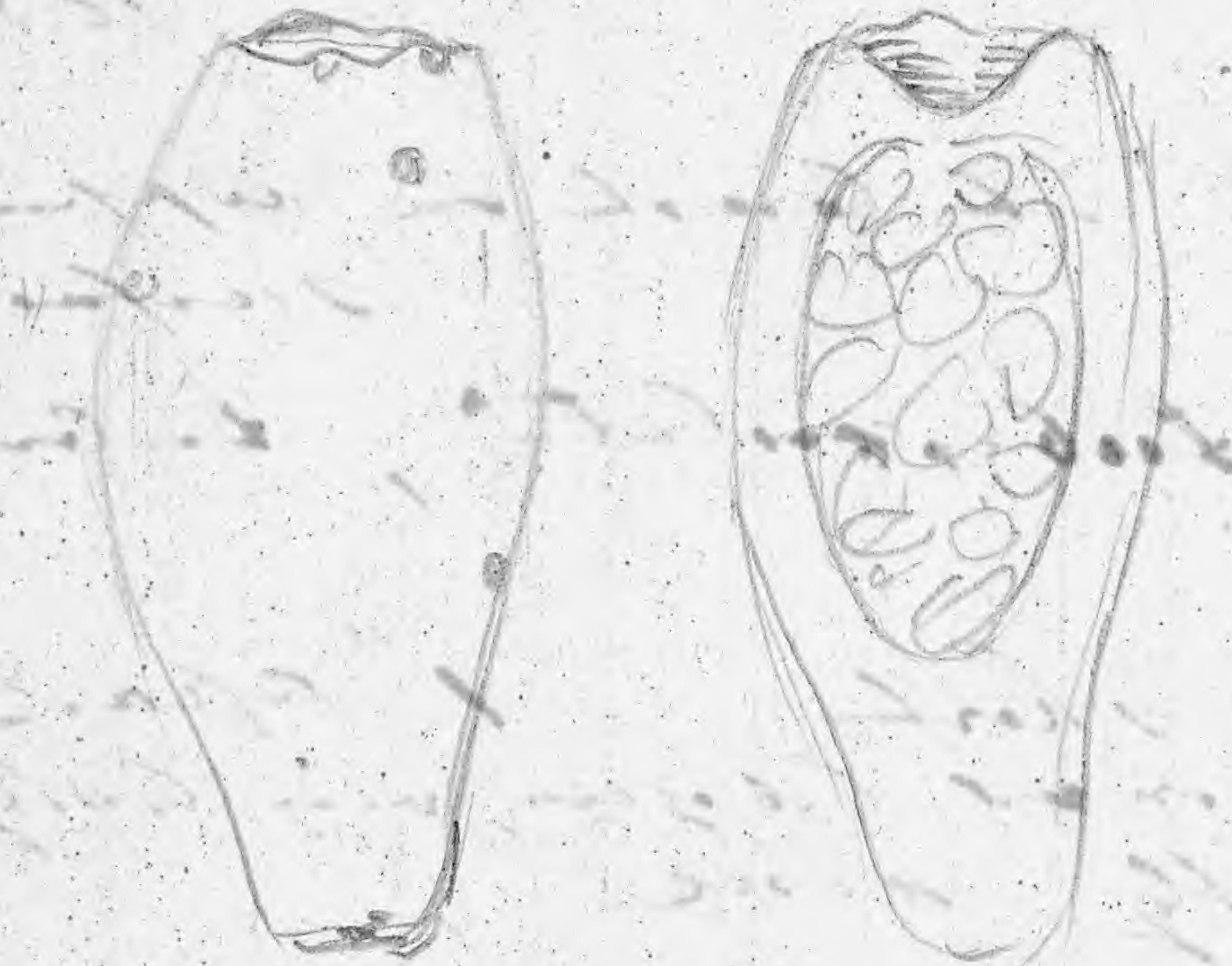


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10-12 areoles
= $\frac{5}{13}$

Fruit oblong, brown and red outside, mesocarp not fleshy - umbilicus hemispherically imersed, or funnel-shaped with smooth cavity oblong.

areoles few (10-12) ^{small} down on very small, but not wanting as in *Tuna* - all, now at least, without bristles.

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54. *Opuntia humilis*
vulgaris

800 ft. Jan 5 1889

Again same as 52 & 53, only smaller
prostrate, almost spineless.
Joints 4 x 2½" mostly 3" x 2".

58. *O. Talica*

exactly like the last.

52. 53. 54. 58. do not differ among themselves -
52 more red than the others, but all are
to somewhat -
57 is also quite similar, but may possibly
be distinct - more elongated joints, more
erect, and now quite green.



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72 *Opuntia senilis* Host Bot Neap.

Jan 5 1869

Spreading, 3-4' high -
fruit broadly obovate 10-12" x 7-10" thick
areolar oblong small, . . . apart
all spiny, bristles short and few
spines usually 1 or more, most all
dimpled, or lateral, appressed, larger ones
flattened, whitish - *arborescens* -



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